

IN THE CLAIMS:

1. (currently amended) A method of locating set-top terminals within a cable television system and using location information for said terminals to improve efficient operation of said cable television system, the method comprising:

with a system controller, automatically determining which upstream plant of a plurality of upstream plants transmits a first message to said system controller from a particular set-top terminal that has not communicated with the system controller previously; and

identifying a downstream plant associated with the upstream plant that transmits said first message from said set-top terminal;

wherein a location of said set-top terminal within said system comprises an identification of said upstream plant and said associated downstream plant.

2. (original) The method of claim 1, further comprising:
transmitting a request message with said system controller to a set-top terminal over said cable television system; and

responding to receipt of said request message by said set-top terminal by transmitting said first message from said set-top terminal to said system controller.

3. (currently amended) The method of claim 1, further comprising assigning attributes for said set-top terminal based on said location of said set-top terminal, wherein one or more different attributes are assigned to set-top terminals in different locations.

4. (original) The method of claim 3, further comprising:
associating attributes for said set-top terminal with each upstream plant and downstream plant in said system;

wherein said assigning said attributes for said set-top terminal is accomplished using attributes associated with said upstream plant that transmits said first message and attributes

associated with said downstream plant corresponding to said upstream plant that transmits said first message.

5. (original) The method of claim 4, further comprising:
associating attributes for said set-top terminal with each upstream path and headend in the system; and
assigning attributes to a set-top terminal based on attributes associated with an upstream path and headend that correspond to that set-top terminal.

6. (original) The method of claim 1, further comprising polling said set-top terminals for data with said controller by signaling selected multiple terminals simultaneously and selecting said selected terminals based on determined locations for said selected terminals to minimize data collisions during said polling.

7. (original) The method of claim 1, wherein said set-top terminal transmits said first message to said controller without having received a request message from said controller requesting transmission of said first message.

8. (original) The method of claim 7, further comprising entering a command to said set-top terminal to cause said set-top terminal to transmit said first signal.

9. (original) The method of claim 1, further comprising identifying an upstream or downstream plant that is malfunctioning by identifying a group of said set-top terminals which fail to communicate with said controller, said group of set-top terminals being associated with said malfunctioning upstream or downstream plant.

10. (original) The method of claim 1, wherein each of said upstream plants comprise a telephone line over which said set-top terminal sends said first message to said controller.

11. (currently amended) A system for locating set-top terminals within a cable television system and using location information for said terminals to improve efficient operation of said cable television system, comprising:

a system controller;
a population of set-top terminals;
a plurality of downstream plants with which said system controller transmits data messages to said set-top terminals; and
a plurality of upstream plants with which said set-top terminals transmit messages to said system controller;

cl wherein said controller determines a location of each set-top terminal within said system by determining which upstream plant transmits a first message to said system controller from a particular set-top terminal, a location of which set-top terminal has not been previously obtained by said controller; and identifying a downstream plant associated with that upstream plant that transmits said first message from said set-top terminal.

12. (original) The system of claim 11, wherein:
said controller transmits a request message to a set-top terminal; and
said set-top terminal transmits said first message to said system controller in response to receipt of said request message.

13. (original) The system of claim 11, wherein said controller assigns attributes for each set-top terminal based on said location of said set-top terminal.

14. (original) The system of claim 13, wherein:
said controller associates attributes for said set-top terminal with each upstream plant and downstream plant in said system; and
said controller assigns attributes for each set-top terminal using said attributes associated with said upstream plant that transmits said first message and attributes associated

with the downstream plant associated with said upstream plant that transmits said first message.

15. (original) The system of claim 11, wherein said controller polls said set-top terminals for data by signaling selected multiple terminals simultaneously and selecting said selected terminals based on determined locations for said selected terminals to minimize data collisions during said polling.

16. (original) The system of claim 11, wherein said set-top terminal transmits said first message to said controller without having received a request message from said controller requesting transmission of said first message.

17. (original) The system of claim 16, wherein said set-top terminal transmits said first message to said controller in response to a command entered by a user to said set-top terminal.

18. (original) The system of claim 11, wherein said controller identifies an upstream or downstream plant that is malfunctioning by identifying a group of said set-top terminals that fail to communicate with said controller, said group of set-top terminals being those having a location defined with said malfunctioning upstream or downstream plant.

19. (original) The system of claim 11, wherein each of said upstream plants comprise a telephone line over which said set-top terminal sends said first message to said controller.

20. (currently amended) A system for locating set-top terminals within a cable television system and using location information for said terminals to improve efficient operation of said cable television system, the system comprising:

means for determining which upstream plant of a plurality of upstream plants transmits a first message to a system controller from a particular set-top terminal, wherein a location of said particular set-top within said system was previously unknown; and

means for identifying a downstream plant associated with the upstream plant that transmits said first message from said particular set-top terminal;

wherein a location of said particular set-top terminal within said system comprises an identification of said upstream plant and said associated downstream plant.

21. (original) The system of claim 20, further comprising:

means for transmitting a request message to a set-top terminal over said cable television system; and

means for responding to receipt of said request message by said set-top terminal by transmitting said first message transmitted from said set-top terminal to said system controller.

22. (original) The system of claim 20, further comprising means for assigning attributes for said set-top terminal based on said location of said set-top terminal.

23. (original) The system of claim 20, further comprising means for automatically registering a set-top terminal which has been added to said cable system without advance notice to a system operator, wherein said registering comprises determining said location information for that terminal being registered.

24. (original) The system of claim 20, further comprising means for providing physical and logical topology information for said cable television system based on said location information of said terminals.

25. (currently amended) The method of claim 1, further comprising selling said set-top terminal to a subscriber through a retail outlet.

26. (previously presented) The method of claim 1, wherein a new subscriber connects said set-top terminal to said cable television system without advance notice to operators of said cable television system.

27. (previously presented) The method of claim 26, wherein said set-top terminal, once connected to said cable television system, transmits a signal to said system controller, said method further comprising receiving said signal from said set-top terminal and, in response thereto, performing said automatically determining which upstream plant of a plurality of upstream plants transmits said signal from said set-top terminal, and said identifying a downstream plant associated with that upstream plant.

28. (currently amended) A method of adding a set-top terminal to a cable television system, said method comprising:

selling a set-top terminal through a retail distribution model in which a subscriber purchases the terminal at a retail outlet and installs the terminal;

connecting said set-top terminal to said cable television system without advance notice to operators of said cable television system;

with a system controller, automatically determining which upstream plant of a plurality of upstream plants transmits a first message to said system controller from a particular set-top terminal; and

identifying a downstream plant associated with the upstream plant that transmits said first message from said set-top terminal;

wherein a location of said set-top terminal within said system comprises an identification of said upstream plant and said associated downstream plant.

29. (previously presented) The method of claim 28, further comprising:
transmitting a request message with said system controller to a set-top terminal over said cable television system; and

responding to receipt of said request message by said set-top terminal by transmitting said first message from said set-top terminal to said system controller.

30. (previously presented) The method of claim 28, further comprising assigning attributes for said set-top terminal based on said location of said set-top terminal.

31. (previously presented) The method of claim 30, further comprising:
associating attributes for said set-top terminal with each upstream plant and downstream plant in said system;

wherein said assigning said attributes for said set-top terminal is accomplished using attributes associated with said upstream plant that transmits said first message and attributes associated with said downstream plant corresponding to said upstream plant that transmits said first message.

32. (previously presented) The method of claim 31, further comprising:
associating attributes for said set-top terminal with each upstream path and headend in the system; and

assigning attributes to a set-top terminal based on attributes associated with an upstream path and headend that correspond to that set-top terminal.

33. (previously presented) The method of claim 28, further comprising polling a group of set-top terminals for data with said controller by signaling selected multiple terminals simultaneously and selecting said selected terminals based on determined locations for said selected terminals to minimize data collisions during said polling.

34. (previously presented) The method of claim 28, wherein said set-top terminal transmits said first message to said controller without having received a request message from said controller requesting transmission of said first message.

35. (previously presented) The method of claim 34, further comprising entering a command to said set-top terminal to cause said set-top terminal to transmit said first signal.

36. (previously presented) The method of claim 28, further comprising identifying an upstream or downstream plant that is malfunctioning by identifying a group of said set-top terminals which fail to communicate with said controller, said group of set-top terminals being associated with said malfunctioning upstream or downstream plant.

37. (new) A method of registering set-top terminals within a cable television system, the method comprising:

connecting a set-top terminal to said system without advance notice to operators of said system;

transmitting a registration request message from said set-top terminal to a system controller of said system; and

with said system controller, automatically registering said set-top terminal within said system upon receipt of said registration request message.

38. (new) The method of claim 37, wherein registering said set-top terminal further comprises locating said set-top terminal by identifying which upstream plant of a plurality of upstream plants transmits said registration request message to said system controller and identifying a downstream plant associated with the upstream plant that transmits said registration message from said set-top terminal.

39. (new) The method of claim 38, further comprising assigning parameters to said set-top terminal based on a location of said set-top terminal, wherein different parameters are assigned to set-top terminals at different locations within said system.

40. (new) The method of claim 37, wherein transmitting said registration request message is performed only in response to a code being input to said set-top terminal.

41. (new) The method of claim 37, wherein said registration request message is transmitted over a telephone line and includes an identification of a channel over which said set-top terminal is receiving communications from said system controller.

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42. (new) The method of claim 37, further comprising transmitting said registration request message over a list of different frequencies until said system controller responds.

43. (new) The method of claim 42, further comprising transmitting said registration request message at a number of different power levels until said system controller responds.
